

***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-19, drawn to a reaction product and method of making.

Group II, claims 20-21, drawn to modified bitumen and method of treating.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT rule 13.1. They lack the same or corresponding special technical features for the following reasons: Group I does not include any treatment of bitumen. Furthermore, the special technical feature does not provide a contribution over the prior art as the limitations of claim 1 are disclosed by the references DE 2730175, DE 19929962, and WO 0068329. These references were cited in the International Search Report as "X references" and therefore disclose all limitations of the special technical feature recited in claim 1. Since the special technical feature is disclosed by the prior art, that special technical feature does not provide a contribution over the prior art. Further, because PCT Rule 13.2 states that a lack of unity exists when the special technical feature does not provide a contribution over the prior art, and because the examiner has disclosed references which teach this special technical feature, a proper assertion has been made that there exists lack of unity.

1. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election

shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

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Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Anthony Bisulca on 28<sup>th</sup> of April, 2008, a provisional election was made with traverse to prosecute the invention of Group I, claim 1-19. Affirmation of this election must be made by applicant in replying to this Office action. Claim 20-21 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

4. The examiner has required restriction between the reaction product with its process of making and the bitumen with a method of modified bitumen. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn method of use claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected method of use invention must require all the limitations of an allowable product claim for that method of use invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined method of use claims will be withdrawn, and the rejoined method of use claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and method of use claims may be maintained. Withdrawn method of use claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the method of use claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121

does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

***Specification***

The specification is objected because tables 3-6 in the specification do not have clear unit nomenclatures. Corrections are suggested.

***Claim Objections***

Claim11 is objected to because it is identical to claim 1 and therefore does not further limiting.

***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent potential harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970), and *In re Thorington*, 418 F.2d 528, 183 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1-6 of copending Application No.11/711229. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reaction products claimed in the application and the three amide wax A,B and C of the co dependent application have identical starting

products, i.e. ethylenediamine with a mixture of linear fatty acids of C<sub>6</sub> to C<sub>20</sub> and 1,2 hydroxystearic acid.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,6,7,11,19 are rejected under 35 U.S.C. 102(b). Charterjee (WO 00/68329) teaches various emulsifier solutions for Bitumen with an acid number between 4.5 and 8.5, using either saturated or unsaturated long chain fatty acids or a mixture thereof. These fatty acids can be obtained from tall oil fatty acid, tallow fatty acid or palm oil, then reacted with a polyamine, such as ethylene polyamine. Alkali number is not discussed, however the starting products and the production methods are identical to those according to the application, therefore the alkali number of the end product would be expected to be similar. The materials are commensurate and used in the same amounts.

Claims 1,6,11,19 are rejected under 35 U.S.C.102(b) over SFDP(677,935). SFDP discloses a method of making a hydrocarbon binder for Bitumen, also using fatty acids and ethylene diamine, having the formula NH<sub>2</sub>-R-NH<sub>2</sub> where R is an aliphatic or

aromatic, natural or synthetic, using 1300kg of tall oil, i.e. long chain fatty acids and 519 kg of ethylenediamine, a ratio of 2:1 as the instant claim. Acid and alkali numbers are not discussed however, but since the starting products and the production methods are identical to those according to the application using a same ratio, it can be assumed that the known and the claimed results are identical, i.e. the parameters are inherent in the products according to the prior arts.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 8, 9,10,12,13 are rejected under 35 U.S.C 103 (a) as being unpatentable over Chatterjee in view of Olivier FR 2765229). Chatterjee teaches a saturated or unsaturated fatty acid or a mixture thereof with 65% -75% by weight but does not teach specifically carboxylic acids as a bitumen binder. Olivier, on the other hand teaches an additive for Bitumen made of amine compound with carboxylic acids having C<sub>4</sub>-C<sub>20</sub> with preference to stearic acids (page4, line 24-28) to increase softening point and viscosity at low temperature. Both teachings and the claims differ in that they do not teach the exact same proportions as recited in the instant claims.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a carboxylic acid taught by Oliver as fatty acids to react with an

ethylenediamine, as taught by Chatterjee to have a good Bitumen binding with low softening point and low viscosity.

It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Claims 3 to 5 and 6 to18 are rejected further under 35 U.S.C. 103 (a) as obvious over SFDP in view of Olivier. SFDP specifically teaches a polyamine including ethylenediamine with a general formula NH<sub>2</sub>-R-NH<sub>2</sub>, where R is an aliphatic or aromatic, with preference of ethylene. And for fatty acids, SFDP clearly indicates that saturated or unsaturated fatty acids can be used, such as palmitic, stearic, oleic, linoleic,etc., natural or synthetic carboxylic acids may also be used.(Col1,line24-45). Furthermore, Olivier specifically points out that the HF wax is a type of amine wax derived from carboxylic acids with an aliphatic amine, especially ethylenediamine.(page 4,line20-25). Therefore, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious.

Regarding claims 3-5 and 18, SFDP and Olivier do not give the same specific ranges of fatty acids, however, it would have been obvious to one of ordinary skill in the

art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding Claim 8, SFDP teaches the use of either saturated or unsaturated fatty acids and the mixture thereof but does not specify dicarboxylic as a material of choices for a Bitumen additive. Olivier specifically teaches a formula with dicarboxylic (page4,line21). It would have been obvious to one or ordinary skill in the art to combine both teachings to improve binding and viscosity of Asphalt or Bitumen.

Regarding Claim 9. SFDP teaches a ratio of fatty acid mixture to amine 2 :1.

Regarding Claim 10. Carboxyl functionality of 2 is inherently derived from the reaction of an ethylenediamine with fatty acids. Oliver(p4,L21),

Regarding Claims 14,15,16, and 17.Both SFDP and Olivier teach a polyamine NH<sub>2</sub>-R-NH<sub>2</sub> where R is an aliphatic, or aromatic radical, with preference of ethylene diamine. (SFDP. Col.1, L41-45).(Oliver.p4,L27-28).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Mc Neil can be reached on (571)-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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